

Amendments to the Drawings

The attached Replacement Sheets includes changes to FIGs. 1-4. These Replacement Sheets, which include FIGs. 1A, 1B, 2A, 2B, 3A, 3B, 4A, and 4B, replace the original sheets including FIGs. 1-4. FIGs. 1A, 1B, 2A, and 2B of the Replacement Sheets correct errors noted by the Examiner and Applicant, and FIGs. 3A, 3B, 4A, and 4B are provided in accordance with the Examiner's suggestion to indicate prior art.

Attachment: Replacement Sheets (replacement sheets 1-8)

Annotated Sheets Showing Changes (annotated sheets 1-8)

Remarks

Applicant has: (a) amended claims 1-2 to correct inadvertent drafting errors wherein the term “default” was inadvertently used instead of the term “fault” and to make clear that the term “number” refers to a “plurality,” i.e., more than one, and not for reasons of patentability; (b) amended the specification: (i) at paragraphs [0003], [0006], [0011], [0016], [0024], [0028], [0032], [0033], [0034], and the Abstract of the Disclosure to correct an inadvertent drafting error wherein the term “default” was inadvertently used instead of the term “fault,” and (ii) at paragraphs [0007], [0008], [0009], [0010], [0012], [0025], [0035], [0036], and [0037] to provide correspondence in the with the Replacement Sheets; and (c) submitted eight (8) replacement sheets and eight (8) annotated sheets for the Examiner’s approval. No new matter has been added.

The Examiner objected to the drawings. Specifically, the Examiner stated:

The drawings are objected to because they include sloppy lettering and lines and FIGs. 3 and 4 mix the “Prior ART” with applicant’s invention. It is suggested that the applicant present two separate figures for FIG. 3, as well for FIG. 4, one pertaining to the present invention and the other one labeled as “PRIOR ART”, i.e., FIGs. 3A and 4A “PRIOR ART”. It is also suggested that the applicant review all the submitted drawings for errors (i.e. page 4, paragraph 0016, line 6, “box 1110” of specification).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing in the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Applicant has submitted Replacement Sheets and Annotated Sheets showing changes made in response to the Examiner’s objection. The attached Replacement Sheets includes changes to FIGs. 1-4. These Replacement Sheets, which include FIGs. 1A, 1B, 2A, 2B, 3A, 3B, 4A, and 4B, replace the original sheets including FIGs. 1-4. FIGs. 1A, 1B, 2A, and 2B

of the Replacement Sheets correct errors noted by the Examiner and Applicant, and FIGs. 3A, 3B, 4A, and 4B are provided in accordance with the Examiner's suggestion to indicate prior art.

As such, in light of the above, Applicant respectfully requests the Examiner to withdraw the objection to the drawings.

The Examiner rejected claims 1 and 4 under 35 U.S.C. 102(b). Specifically, the Examiner stated:

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu et al. (US 6,384,997).

As to Claim 1, Wu et al. discloses a method for writing data on a number of sectors of a track of a disk drive (FIG. 1, "10", "12") that comprises: sending a signal to write data on a first sector of the track (col. 3, lines 58-60, sending a signal to write data is inherent in Wu's write operation, note col. 3, lines 65-67, that writing occurs on a sector of a disk); receiving a write data default (col. 3, lines 60-62); sending a signal to write data on another sector of the track after skipping a predetermined number of sectors (col. 3, line 64 – col. 4, line 10); waiting for the first sector to be in position again (col. 4, lines 7-14 and 42-47); and sending a signal to retry to write data on the first sector if a predetermined number of retries to write data on the track has not been exceeded (col. 4, lines 42-47).

As to claim 4, Wu et al. further discloses the predetermined number of sectors to skip is 1, 2 or more (col. 3, line 67 – col. 4, line 7).

Applicant respectfully traverses the Examiner's rejection. Applicant amended claim 1: (a) to correct an inadvertent drafting error wherein the term "default" was inadvertently used instead of the term "fault" and (b) to make clear that the term "number" refers to a "plurality," i.e., more than one; and not for reasons of patentability.

Applicant respectfully submits that Wu et al. discloses a method for writing that is different from the method of claims 1 and 4. Specifically, Wu et al. teaches the following upon detecting a write fault (see FIG. 4 and col. 3, line 64 to col. 4, line 60): (a) skipping a number of sectors; (b) writing the remaining data; (c) creating a "write defect list" associated with a current "file allocation unit"; and (d) writing the "write defect list" to a private data area. Applicant respectfully submits that the teaching of Wu et al. is different from claims 1 and 4 of the present invention for writing data on a plurality of sectors because claims 1 and 4 require: (a) after receiving a write data fault, sending a signal to write data on another sector of the track after skipping a predetermined number of sectors; (b) waiting for the first sector to be in position

again; and (c) sending a signal to retry to write data on the first sector if a predetermined number of retries to write data on the track has not been exceeded. As the Examiner can readily appreciate from this, embodiments of claims 1 and 4 are different from the teaching of Wu et al. and provide efficiencies in writing data when faults are encountered.

In light of the above, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner rejected claim 2 under 35 U.S.C. 102(b). Specifically, the Examiner stated:

Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Rafanello et al. (US 2001/0010085).

Rafanello et al. discloses a method of reading data from a number of sectors of a track of a disk drive that comprises: sending a signal to read data from the number of sectors starting at a first sector of the track (page 2, para. 0030); receiving one or more read data defaults (FIG. 3, "302"); waiting for the first sector to be in position again (FIG. 3, "304"); and sending a signal to retry to read data from sectors of the track that were unable to be read previously if a predetermined number of retries to read data has not been exceeded (FIG. 3, "304, 306, 310").

Applicant respectfully traverses the Examiner's rejection. Applicant amended claim 2: (a) to correct an inadvertent drafting error wherein the term "default" was inadvertently used instead of the term "fault" and (b) to make clear that the term "number" refers to a "plurality," i.e., more than one; and not for reasons of patentability.

Applicant respectfully submits that Rafanello et al. discloses a method for reading that is different from the method of claim 2. Specifically, Rafanello et al. teaches the following where a number of read attempts are required to successfully read a data sector (see the Abstract): (a) reading a bad sector a number of times, and if the number of attempts does not exceed a threshold, no further action is taken; whereas (b) if the number of attempts equals or exceeds the threshold, then the recovered data is written to a replacement sector. As set forth in Rafanello et al. at [0041]: "The present invention allows unreliable sectors to be relocated to spare sectors with preservation of the data which would otherwise be lost when the sector becomes completely unrecoverable." Applicant respectfully submits that the teaching of Rafanello et al. is different from claim 2 of the present invention for reading data from a plurality

of sectors because claim 2 requires: (a) sending a signal to read data from the plurality of sectors starting at a first sector of the track; (b) receiving one or more read data faults; (c) waiting for the first sector to be in position again; and (d) sending a signal to retry to read data from sectors of the track that were unable to be read previously if a predetermined number of retries to read data has not been exceeded. As the Examiner can readily appreciate from this, embodiments of claim 2 are different from the teaching of Rafanello et al. and provide efficiencies in reading data when faults are encountered.

In light of the above, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner rejected claim 3 under 35 U.S.C. 103(a). Apecifically, the Examiner stated:

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. in view of Ma.

Wu et al. discloses the features of base claim 1 as noted above in the 102 rejection, but does not disclose that the predetermined number of sectors to skip is 0. Wu et al. discloses as few as 1 skipped sector (col. 4, line 5).

Ma discloses a method of writing data where the predetermined number of sectors to skip is 0 when writing is continued after errors occur (see the front cover, steps 112, 116, 118, 120, writing proceeds at the next sector after an error).

It would have been obvious to one of ordinary skill in the art at the time of the invention to skip 0 sectors in the method of Wu et al. as suggested by Ma, the motivation being elimination of a feature and its function or at the least to attempt writing on all sectors at a first instance and thereby saving the time necessary to attempt to write unnecessarily skipped sectors.

Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that Wu et al. is different from claim 1 for the reasons set forth above in response to the rejection of claim 1. Further, Ma teaches a method for detecting write transient errors in a disk drive whereas Wu et al. teaches actions to take upon detecting a write fault. As such there is no motivation whatsoever to combine these references. Further, Applicant respectfully submits that even if one were to combine these references one would not arrive at the invention of claim 1 due to the differences identified above with respect to Wu et al.

In light of the above, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner stated:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aoki (US 2001/0010605 A1) for disclosing a read/write control system for a disk drive

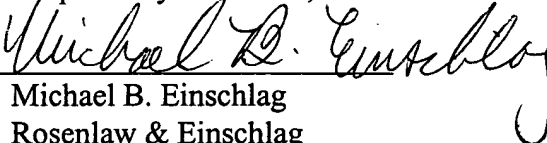
Ma (US 5,588,007) for disclosing a method for detecting transient write errors in a disk drive

Russell (US 6,327,679) for disclosing a relocating unreliable disk sectors when encountering disk drive read errors with notification to user when data is bad.

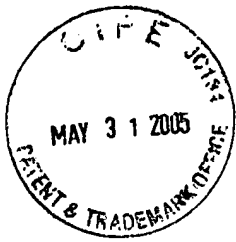
Applicant respectfully submits that the Examiner relied on Ma in rejecting claim 4, see Applicant's response to this rejection above. In addition, Applicant respectfully submits that Aoki and Russell are no more relevant to the present claims than the references relied upon.

In light of the above, Applicant respectfully submits that all the remaining claims are allowable, and Applicant respectfully requests that the Examiner reconsider the case and pass the case to issue. Should the Examiner have any questions or wish to discuss any aspect of the application, a telephone call to the undersigned would be welcome.

Respectfully submitted,

By: 

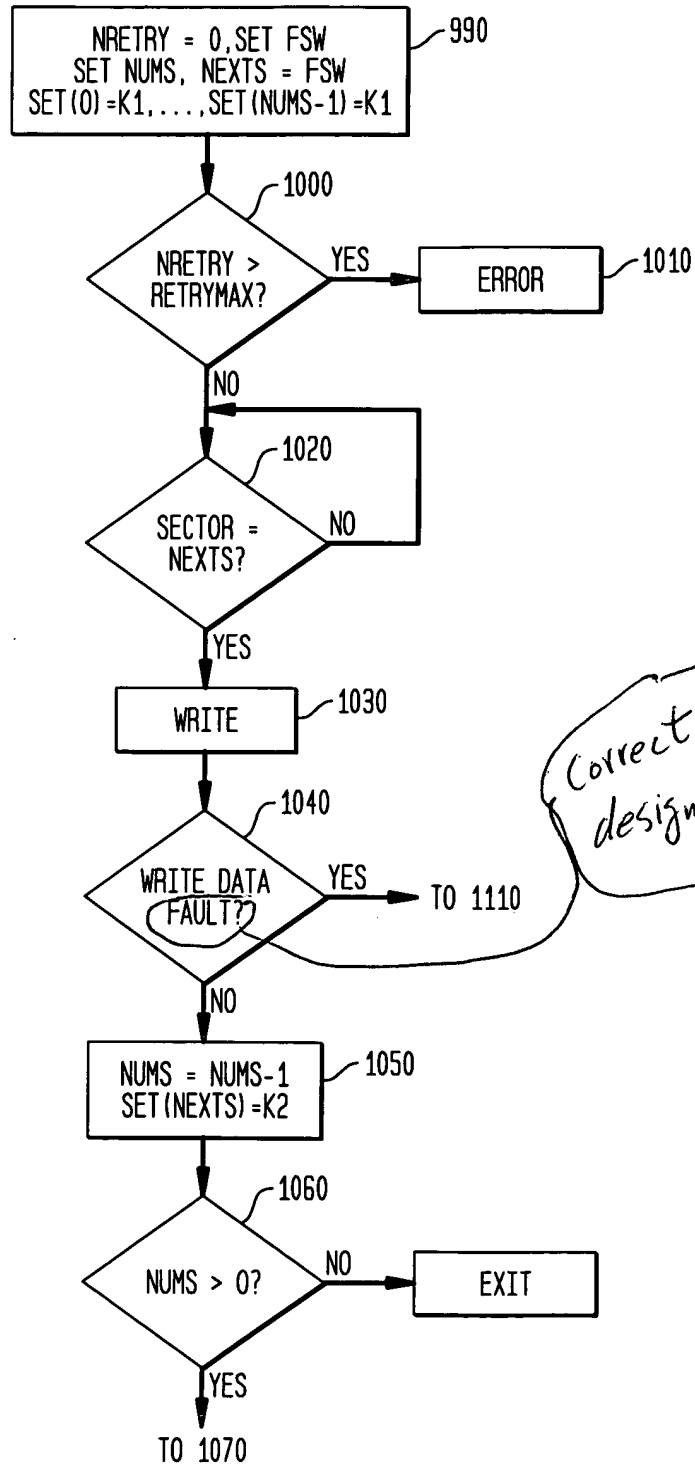
Michael B. Einschlag
Rosenlaw & Einschlag
Reg. No. 29,301
(650) 949-2267
25680 Fernhill Drive
Los Altos Hills, California 94024



1/8

FIG. 1A

renumbered 1A



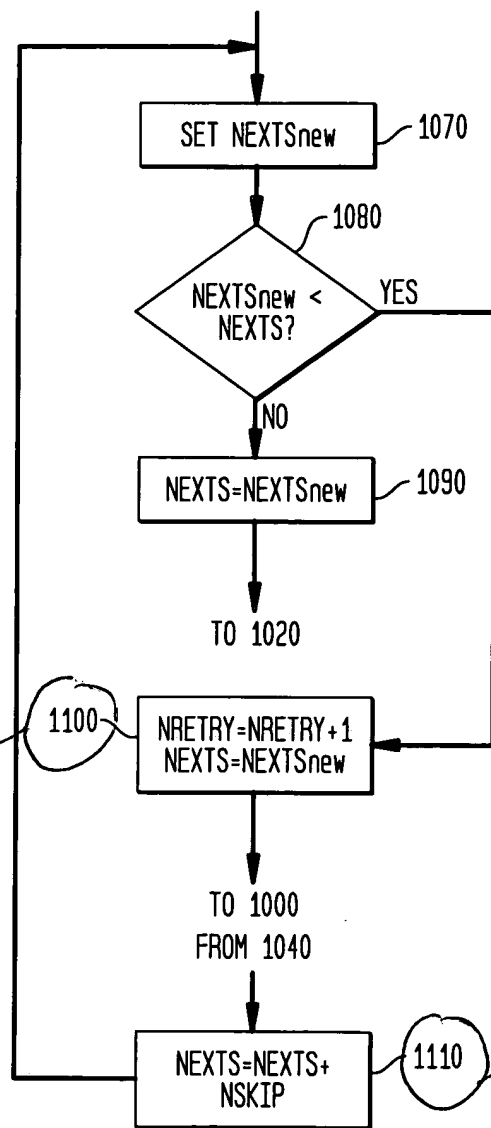
Correct previous designation default

2/8

FIG. 1B

renumbered 1B

add missing
number

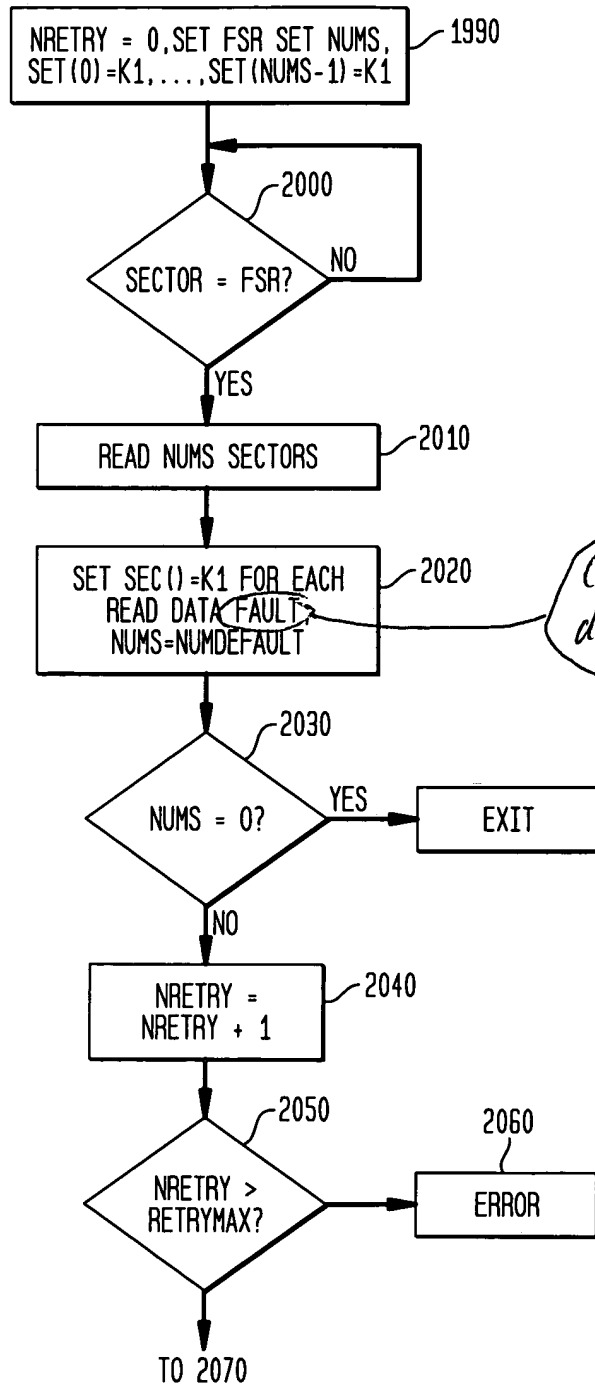


add missing
number

3/8

FIG. 2A

renumbered 2A



4/8

FIG. 2B

renumbered 2B

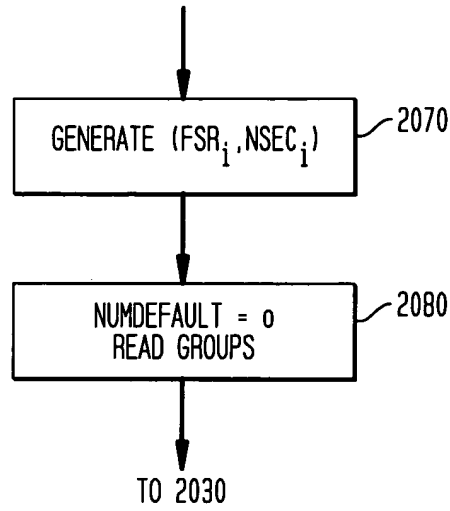


FIG. 3A
(PRIOR ART)

renumbered 3A

Added Label Prior Art

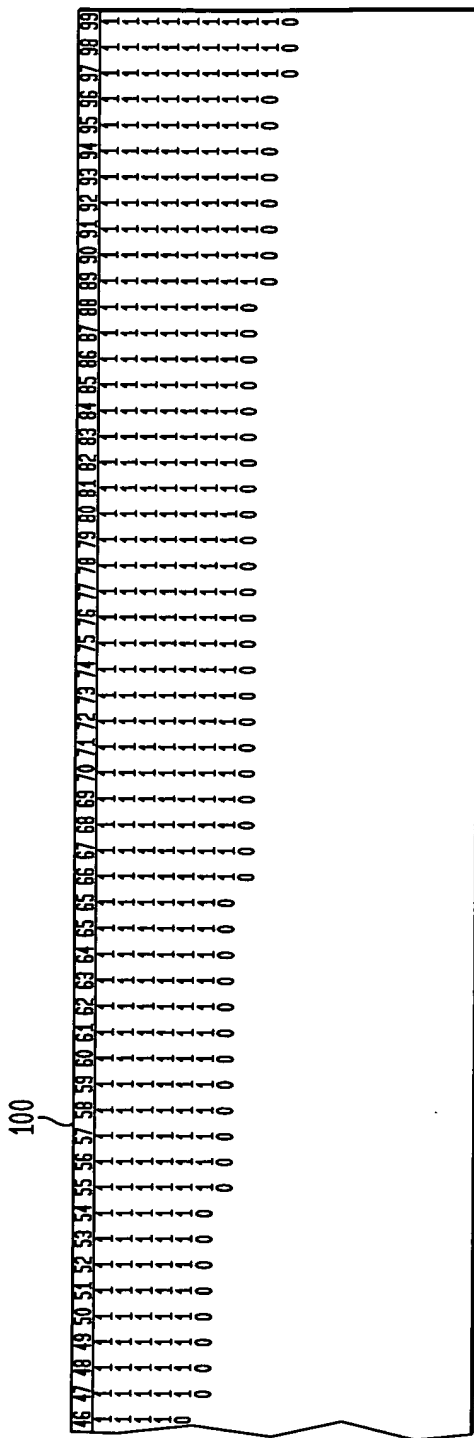
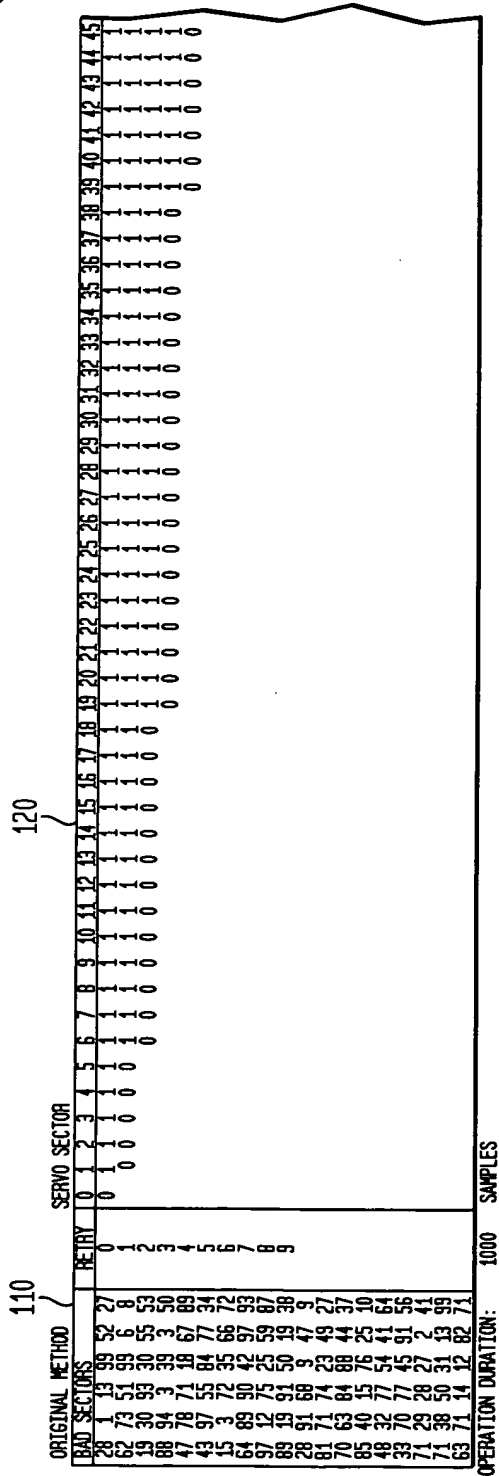


FIG. 4B

renumbered 4B

